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## **X-ray Optics for the 2020s**

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Three factors characterize an X-ray optics technology: angular resolution, effective area per unit mass, and production cost per unit effective area. In general, these three factors are always in conflict with one another. Every telescope that has flown so far represents an astronomically useful compromise of these factors. Of three operating X-ray telescopes, Chandra has been optimized for angular resolution (0.5); Suzaku for effective area per unit mass; and both were optimized in its own way to minimize production cost. Optics for the decade of 2020 requires a combination of Chandra's angular resolution and Suzaku's effective area per unit mass.

In this talk I will briefly review X-ray optics fabrication techniques that have been used in the past three decades and then present my expectations for the 2020s. In particular I will propose a couple of new techniques that should be investigated for making lightweight and high resolution X-ray optics.